Catalogue of American Amphibians and Reptiles.

DUELLMAN, WILLIAM E. 1968. *Smilisca puma.*

Smilisca puma (Cope)
Tawny smilisca

Hyla puma Cope, 1885:183. Type-locality, "Nicaragua." On the basis of known distribution of this and other species received in the same collection, the specimens probably came from the Caribbean lowlands of southeastern Nicaragua. Holotype, U. S. Natl. Mus. 13735, an adult female, collected by J. F. Moser.

Hyla wellmanorum Taylor, 1952:843. Type-locality, "Bataan, Limón Province, Costa Rica." The locality, sometimes spelled "Batan," is at an elevation of 15 meters. Holotype, Univ. Kansas Mus. Nat. Hist. 30302, an adult male, collected by Edward H. Taylor.

Smilisca wellmanorum: Starrett, 1960:303. Transfer of *Hyla wellmanorum* Taylor to genus *Smilisca.*

Smilisca puma: Duellman and Trueb, 1966:314. Transfer of *Hyla puma* Cope to genus *Smilisca* and recognition of *Smilisca wellmanorum* (Taylor) as a synonym of *Smilisca puma* (Cope).

• CONTENT. No subspecies are recognized.

• DEFINITION AND DIAGNOSIS. A small *Smilisca*—males attain snout–vent lengths of 38 mm, and females reach a maximum snout–vent length of 46 mm. The snout is moderately long and truncate in lateral profile. The diameter of the tympanum is about two-thirds that of the eye. The tarsal fold is weak and extends only about two-thirds of the length of the tarsus. The inner metatarsal tubercle is small, low, flat, and elliptical. The fingers have only a vestige of a web, and the toes are about one-half webbed. The skull is about as long as wide and has a keyhole-shape frontoparietal fontanelle, but lacks supraorbital flanges. The squamosal is small and not in contact with the maxillary. In life the dorsum is tan or pale brown and the venter is white. A pair of broad, dark brown, longitudinal stripes, that are interconnected in many specimens, extends from the occiput nearly to the vent. In some specimens the stripes are fragmented or are fused with each other. Dark brown transverse bands are present on the limbs. The posterior surfaces of the thighs are dark brown, and the groin is mottled cream or brown. There is no dark postorbital mark, but a venated pattern of dark brown is present from the axilla to mid-flank. The edge of the upper lip is white, and white stripes are present on the outer edges of the tarsi and forearms. The iris is deep bronze. In breeding males the throat is grayish brown.

Tadpoles have tails about half again as long as the body and moderately deep fins. The dorsal fin extends onto the body. The body is grayish brown, palest ventrally, and the caudal musculature is pale tan. Dark gray reticulations are present on the caudal musculature and fins. The mouth is situated anteroventrally. The median part of the upper lip is bare; the rest of the mouth is fringed by two rows of papillae.

The near absence of webbing between the fingers and the presence of longitudinal marks on the dorsum distinguish *S. puma* from other species of *Smilisca* and from other known lower Central American hylids. It is possible to confuse *S. puma* with half-grown *S. baudinii* or *S. phaeota*, but both have more webbing, even as half-grown individuals. The last two species have dark postorbital marks; *S. baudinii* has a barred upper lip, and *S. phaeota* has a strongly venated pattern on the flanks. The only other species of *Smilisca* having tadpoles with the median part of the upper lip bare, two rows of fringing papillae, and the dorsal fin extending onto the tail is *S. baudinii*, which differs by having brown spots on the tail and a cream-colored, crescent-shaped mark on the posterior edge of the body.

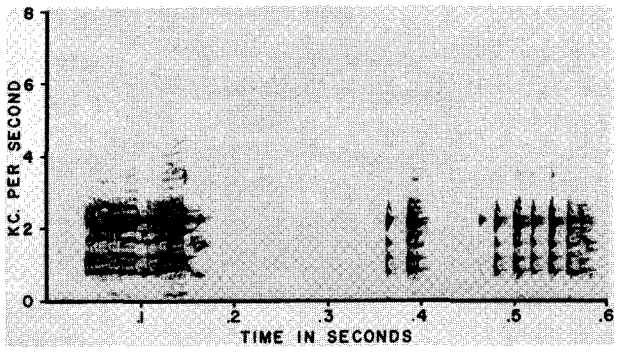


FIGURE. Audiospectrogram (narrow band, 40 cycles per second) of the mating call of *Smilisca puma*: Heredia Province, Costa Rica, 19 February 1965, air 23.5°C. (Univ. Kansas Mus. Nat. Hist. Tape No. 382; specimen No. 91714.)

• DESCRIPTIONS. Detailed descriptions of the adults were given by Taylor (1952) and Duellman and Trueb (1966). The latter also described the breeding call, cranial osteology, and tadpoles. The breeding call consists of a low squawk usually followed by one or more rattling secondary notes. The primary notes have durations of 0.06 to 0.35 seconds, whereas the duration of the secondary notes varies from 0.10 to 0.47 seconds. Each call group is repeated at intervals of 5 to 55 seconds. The primary notes have 187 to 240 pulses per second and major frequencies of 495 to 980 and 1456 and 2240 cycles per second.

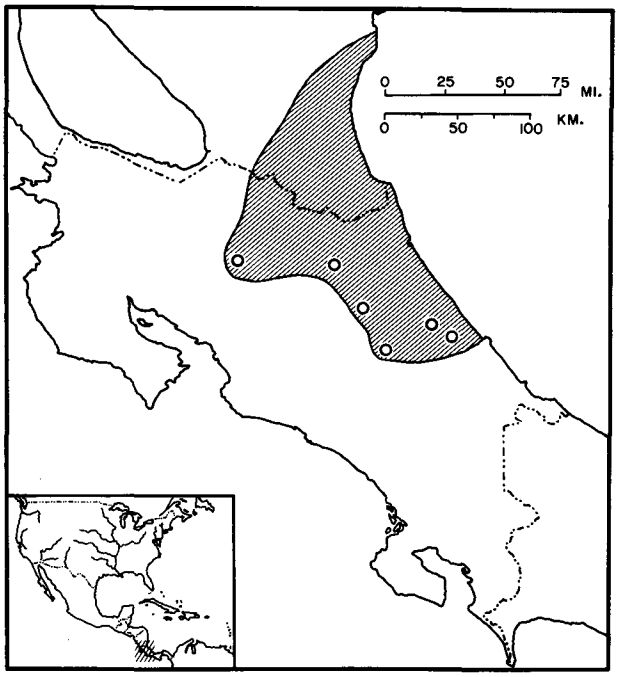
• ILLUSTRATIONS. Black and white photographs were given by Taylor (1952) and Duellman and Trueb (1966). The latter also illustrated the hands, feet, details of head, skull, and tadpoles and provided an audiospectrogram.

• DISTRIBUTION. *Smilisca puma* inhabits wet forested regions of the Caribbean lowlands of Costa Rica and presumably southern Nicaragua. The highest elevation from which the frog is known is 285 meters.

• FOSSIL RECORD. None.

• PERTINENT LITERATURE. In addition to the type descriptions of *Hyla puma* (Cope, 1885) and *Hyla wellmanorum* (Taylor, 1952), the species is discussed in detail by Duellman and Trueb (1966).

• REMARKS. Cope's (1885) *Hyla puma* remained unknown except for its inclusion in check lists until the holotype was compared with that of *Hyla wellmanorum* Taylor and found to agree in all essential details (see Duellman and Trueb, 1966). Starrett (1960) showed that Taylor's *Hyla wellmanorum*



MAP. Symbols mark known localities, shading estimates total range. The type-locality is too indefinite to be plotted.

belonged in the genus *Smilisca*, but was unaware that *S. wellmanorum* was a synonym of *S. puma*.

The vernacular name, tawny smilisca, is proposed in allusion to the dorsal color and the inferred meaning of the specific name.

• ETYMOLOGY. The specific name *puma* seemingly is an Indian name for a cat, from which is derived the vernacular name for *Felis concolor*. Possibly Cope used this name in allusion to the tawny dorsal color of the frog, which is not unlike that of the puma.

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